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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,422	09/13/2004	Bunkei Matsuoka	1163-0514PUS1	6313

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EXAMINER

PHILLIPS, FORREST M

ART UNIT PAPER NUMBER

2837

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/507,422

Applicant(s)

MATSUOKA ET AL.

Examiner

Forrest M. Phillips

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/13/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

Figures 6-8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim1 is objected to because of the following informalities: "a duct that is provided in said front wall around said sound outlet" Illustrated in figure 1B the duct is around in the sense of near the sound outlet, examiner understands the claim to read as such rather than meaning the duct surrounds the outlet itself. The claim would be more clear were it to read "near the sound outlet". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant admitted prior art in view of Yamagishi (US4742887).

With respect to claim 1 Applicant admitted prior art figure 6 discloses a portable acoustic apparatus from which a user receives sound by coupling it to a concha, said portable acoustic apparatus comprising: a sound outlet (3 in figure 6) provided in a front wall of a housing (6 in figure 6) of said portable acoustic apparatus; an acoustic converting element (1 in figure 6) fixed in said housing such that a front chamber (2 in figure 6) is formed between said acoustic converting element and said front wall, and a back chamber (4 in figure 6) is formed between said acoustic converting element and a back wall of said housing; and a duct (50 in figure 6) is provided that communicates to an outside of said housing; a minimum inner width of an outer casing of said housing is set at a value equal to or less than a standards diameter of a human concha (see figures 7A and B) outer casing sitting within the ear of user.

Applicant admitted prior art does not disclose the duct being provided in the front wall around said sound outlet.

Yamagishi discloses a duct (21 in figure 7) located adjacent to the acoustic converting element (12' in figure 7) in communications with the air outside the front wall of the housing around the sound outlet.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamagishi to have a duct located adjacent the acoustic converting element connecting the air in front of the housing with the back

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chamber (18'b in figure 7) with the structure of figure 6 of applicant admitted prior art, This would be a known rearrangement of the elements of figure 6.

The motivation for doing so would have been to couple the pressure in the ear with the pressure in the chamber.

With respect to claim 2 Yamagishi further discloses wherein said duct is formed at a location within half the standard diameter of the human concha from said outlet (refer to figure 7). If the same spatial relationship between the converting element and the duct that is demonstrated by Yamagishi is applied to the prior art figure 6 then the duct will be within half the standard diameter of the human concha from said outlet, as the outlet is at the center of the device and the wall is approximately one half the standard diameter away from the center of the apparatus then the duct if placed adjacent to the converting element and thus on the front wall it would be within one half the diameter of the human concha.

With respect to claim 3 Yamagishi further discloses further comprising an acoustic resistance material (22 in figure 1) for increasing acoustic resistance of said duct at an opening of said duct at an internal side of said housing.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teaching of Yamagishi from figure 1 to have an acoustic resistance material at the opening of said duct at an internal side of said housing with the embodiment of figure 7.

The motivation for doing so would have been to match the equivalent mass to the acoustic resistance (column 4 line 65 to column 5 line 11).

With respect to claim 4 Yamagich further discloses further comprising an acoustic resistance material (22 in figure 1) for increasing an acoustic resistance of said duct at an opening of said duct at an internal side of said housing.

With respect to claim 5 Applicant admitted prior art discloses a portable acoustic apparatus from which a user receives sound by coupling it to a concha, said portable acoustic apparatus comprising: a sound outlet (3 in figure 6) provided in a front wall of a housing of said portable acoustic apparatus; an acoustic converting element (1 in figure 6) fixed in said housing such that a front chamber (2 in figure 6) is formed between said acoustic converting element and said front wall, and a back chamber (4 in figure 6) is formed between said acoustic converting element and a back wall of said housing; and a duct (50 in figure 6) is provided that communicates to an outside of said housing, wherein a minimum inner width of an outer casing of said housing is set at a value equal to or greater than a standard diameter of a human concha (see figure 7).

Applicant admitted prior art does not disclose the duct is provided in said front wall around said sound outlet and a distance between the center of said sound outlet and an internal side of said outer casing is less than half the standard diameter at least in some part.

Yamagishi discloses a duct (21 in figure 7) provided adjacent to the acoustic converting element in communication with the outside of the chamber in front of the apparatus, and the distance between the center of the apparatus and an internal side of the outer casing is less than half the standard diameter at least in some part (refer to figures 7 and 4).

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamagishi in placement of the duct with respect to the converting element with the device of prior art figure 6 in order to provide an acoustic coupling with the air inside the human ear with the chamber of the apparatus.

With respect to claim 6 Yamagichi further discloses wherein said duct is formed at a location within half the standard diameter of the human concha from said sound outlet (refer to figure 7). If the same spatial relationship between the converting element and the duct that is demonstrated by Yamagishi is applied to the prior art figure 6 then the duct will be within half the standard diameter of the human concha from said outlet, as the outlet is at the center of the device and the wall is approximately one half the standard diameter away from the center of the apparatus then the duct if placed adjacent to the converting element and thus on the front wall it would be within one half the diameter of the human concha.

With respect to claim 7 Yamagichi further discloses further comprising an acoustic resistance material (22 in figure 1) for increasing an acoustic resistance of said duct at an opening of said duct at an internal side of said housing.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teaching of Yamagishi from figure 1 to have an acoustic resistance material at the opening of said duct at an internal side of said housing with the embodiment of figure 7.

The motivation for doing so would have been to match the equivalent mass to the acoustic resistance (column 4 line 65 to column 5 line 11).

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With respect to claim 8 Yamagichi further discloses further comprising an acoustic resistance material (22 in figure 1) for increasing an acoustic resistance of said duct at an opening of said duct at an internal side of said housing.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lin(US6084976); Kamon et al (US4646872); and Nageno (US5949896).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Forrest M. Phillips whose telephone number is 5712729020. The examiner can normally be reached on Monday through Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 5712721988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FP


LINCOLN BONO VAN
SUPERVISORY PATENT EXAMINER